

1.generate a random number within a specified range.such as 1 to100.

```
import java.util.Random;
```

```
public class GenerateRandom {  
    public static void main(String[] args) {  
        Random rand = new Random();  
        int randInt = rand.nextInt(100) + 1; // Generates a random integer between 1 and 100  
        System.out.println("Random Integer: " + randInt);  
    }  
}
```

2.Prompt the user to enter their guess for the generated number.

```
import java.util.Scanner;
```

```
import java.util.Random;
```

```
public class NumberGuessingGame {  
    public static void main(String[] args) {  
        Scanner scanner = new Scanner(System.in);  
        Random random = new Random();  
  
        int secretNumber = random.nextInt(100) + 1; // Generate a random number between 1  
and 100  
        int userGuess;  
  
        System.out.println("Welcome to the Number Guessing Game!");  
        System.out.println("I've picked a number between 1 and 100. Try to guess it!");  
  
        do {  
            System.out.print("Enter your guess: ");  
            userGuess = scanner.nextInt();  
  
            if (userGuess < secretNumber) {  
                System.out.println("Too low! Try a higher number.");  
            } else if (userGuess > secretNumber) {  
                System.out.println("Too high! Try a lower number.");  
            } else {  
                System.out.println("Congratulations! You guessed the correct number: " +  
secretNumber);  
            }  
        } while (userGuess != secretNumber);  
  
        scanner.close();  
    }  
}
```

3. compare the user's guess with the generated number and provide feedback on whether the guess is correct, too high, or too low.

```
import javax.swing.JOptionPane;
```

```
public class RandomGuessMatch {
    public static void main(String[] args) {
        // Generate a random number between 1 and 5
        int random = 1 + (int) (Math.random() * 5);

        // Get the user's input
        String userInput = JOptionPane.showInputDialog("Enter a number between 1 and 5:");
        int userNum = Integer.parseInt(userInput);

        // Compare the user's guess with the random number
        if (userNum == random) {
            JOptionPane.showMessageDialog(null, "Congratulations! Your guess is correct.");
        } else if (userNum < random) {
            JOptionPane.showMessageDialog(null, "Too low! Try again.");
        } else {
            JOptionPane.showMessageDialog(null, "Too high! Try again.");
        }
    }
}
```

4. limit the number of attempts the user has to guess the number.

```
import java.util.Random;
```

```
import java.util.Scanner;
```

```
class GuessNumber {
    public static void main(String args[]) {
        Random random = new Random();
        Scanner input = new Scanner(System.in);
        int MIN = 1;
        int MAX = 10;
        int comp = random.nextInt(MAX - MIN + 1) + MIN;
        int user;
        int attemptsNum = 0; // Counter for attempts
        final int maxAttempts = 3; // Maximum number of attempts

        do {
            System.out.print("Guess a number between 1 and 10: ");
            user = input.nextInt();

            if (user > comp)
                System.out.println("My number is less than " + user + ".");
            else if (user < comp)
                System.out.println("My number is greater than " + user + ".");
        }
```

```

        else
            System.out.println("Correct! " + comp + " was my number!");

        attemptsNum++; // Increment the attempt counter
    } while (user != comp && attemptsNum < maxAttempts);

    if (attemptsNum == maxAttempts)
        System.out.println("You lose. The number was: " + comp);
    }
}

```

5.add the options for multiple rounds ,allowing the user the number.

```

import java.util.Scanner;

public class MultipleRoundsExample {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        int choice;

        do {
            System.out.println("Select an option:");
            System.out.println("1. Play game");
            System.out.println("2. View high scores");
            System.out.println("3. Exit");
            System.out.print("Enter your choice: ");
            choice = scanner.nextInt();

            switch (choice) {
                case 1:
                    // Implement your game logic here
                    System.out.println("Starting the game...");
                    break;
                case 2:
                    // Display high scores
                    System.out.println("High scores:");
                    // Implement high score display logic
                    break;
                case 3:
                    System.out.println("Exiting. Goodbye!");
                    break;
                default:
                    System.out.println("Invalid choice. Try again.");
            }
        } while (choice != 3);

        scanner.close();
    }
}

```

```
}
```

6.display the users score ,which can be based on the number of attempts taken or rounds won.

```
import java.util.Scanner;
```

```
public class GuessingGame {
    public static void main(String[] args) {
        int hiddenNum = 10; // The secret number to guess
        Scanner input = new Scanner(System.in);
        int attempts = 0; // Initialize the attempts counter

        while (true) {
            System.out.print("Enter a number by guessing: ");
            int guessedNum = input.nextInt();

            if (guessedNum == hiddenNum) {
                System.out.println("Congratulations! Your number is matched.");
                System.out.println("Total attempts: " + attempts);
                break; // Exit the loop when the correct number is guessed
            } else if (guessedNum < hiddenNum) {
                System.out.println("Not matched! Try a bigger number.");
            } else if (guessedNum > hiddenNum) {
                System.out.println("Not matched! Try a smaller number.");
            }

            attempts++; // Increment the attempts counter
        }
    }
}
```